Acta Biologica Szeged. *23* (1—4), pp. 139—167 (1977)

ANTHROPOLOGICAL OUTLINES OF THE PREHISTORY OF THE SOUTHERN PART OF THE GREAT HUNGARIAN PLAIN AND OF NORTHERN JUGOSLAVIA

GY. FARKAS

Department of Anthropology, Attila József University, Szeged

(Received June 30, 1976)

Abstract

The results achieved by the author with respect to the Neolithic, Copper, and Bronze Ages in the Southern Part of the Great Hungarian Plain and Northern Jugoslavia are summarized on the basis of 1292 prehistoric anthropological finds from the above mentioned archaleoogical ages. The investigations were of metrical, morphological, palaeopathological, palaeodemographical, taxonomical character.

This work is the first attempt to interpret the development of prehistoric populations within a geographical unit of Hungary on the basis of extensive palaeoanthropological material.

Scientific antecedents

In Hungary extremely rich prehistoric archaeological and anthropological material has been found. The systematical evaluation of the archaeological finds was carried out and the results were published (BANNER, 1932, 1937; BÓNA, 1961, 1965, 1965a, 1966, 1975; KALICZ, 1970; B. KUTZIÁN, 1972; TROGMAYER, 1963, 1967, 1968, 1975). The same does not apply, unfortunately, to the skeletal material unearthed. Looking over the existing literature on the prehistoric anthropology of the whole Hungary, the following can be said.

From among the neolithic finds in this country there were, so far, made known: a single female find uncovered in the cave Büdöspest (BARTUCZ, 1916). the graves at Békés—Povádzug (LIPTÁK—FARKAS, 1967), the finds of the cemetery at Lengyel (VIRCHOW, 1890; MALÁN, 1929), the find from Vaskút (NEMESKÉRI, 1944), the skeletons excavated from a hill at Vésztő—Mágor (FARKAS, 1974), the finds from Villánykövesd and Zengővárkony (K. ZOFFMANN, 1971, 1974), as well as the skeletons of the findspot Kisköre—Gát (TÓTH, 1972, 1973). The finds trephined from Lebő, Szentes—Ficsorhalom and Veszprém were treated by BARTUCZ separately (BARTUCZ, 1966). Finally, an earlier comprehensive survey of the Neolithic Age is also to be mentioned (BARTUCZ, 1938).

The number of finds published from the Neolithic Age is about 130. The 26 finds treated in the present work are to be added to these.

From among the findspots from the Copper Age, the anthropological evaluation was performed in the following cases: Alsónémedi (NEMESKÉRI, 1951), Budapest Andor street (NEMESKÉRI, 1956), Bodrogkeresztúr, Pusztaistvánháza (BARTUCZ, 1938), Csongrád—Kettőshalom (MARCSIK, 1971), Hódmezővásárhely—Kotacpart (APOR—NAGY, 1940), Kiskőrös, Szentes—Teés (BARTUCZ, 1966), Palotabozsok

(NEMESKÉRI, 1956), Szentes—Nagyhegy (NEMESKÉRI, 1956), Tiszapolgár—Basatanya (B. KUTZIÁN, 1963; NEMESKÉRI, 1961), Zengővárkony (NEMESKÉRI, 1961; BARTUCZ, 1966).

With respect to the Copper Age, two other comprehensive works are known (NEMESKÉRI, 1956, 1961) in which the author's conclusions were drawn on the basis of the anthropological material of several findspots (Ajka, Alsónémedi, Bodrogkeresztúr, Budakalász, Hajdúdorog, Jászberény—Borsóhalom, Jászladány, Kiskőrös, Kistőke, Konyár, Lebő, Pécel, Pusztaistvánháza, Paszab, Szerencs—Hajdúrét, Tiszapolgár—Basatanya). The material of four cemeteries (Alsónémedi, Budapest—Andor street, Palotabozsok, Szentes—Nagyhegy) were used by TÓTH (1970, 1971, 1972, 1973), as the amalgamated groups of the Baden culture, for analysing the morphogenetic trends.

From among the several finds ascribed to the Bronze Age, scientific evaluation took place only in comparatively few cases. Sites made known so far from the anthropological point of view are: Bag, Kelebia, Üllő (LIPTÁK, 1957), Battonya (FARKAS—LIPTÁK, 1968), the trepanned finds from Deszk—F, Füzesabony, Szeged—Jánosszállás, Szőreg—C (BARTUCZ, 1966), Pitvaros (FARKAS, 1971), Tápé (FARKAS, 1970; FARKAS — LIPTÁK, 1971, 1971a, 1975; LENGYEL, 1975), Tiszafüred (TÓTH, 1972, 1973).

Also included here are: the comprehensive work of BARTUCZ (1938), the papers dealing with the problem of gracilization (TÓTH, 1968, 1970, 1971, 1972), as well as the publications treating the Bronze Age taxonomy (LIPTÁK, 1957, 1962). The palaeodemographic problems of the Bronze Age are treated in a comprehensive monograph (NEMESKÉRI, 1970). The major problems of prehistory in Hungary (NEMESKÉRI, 1961) are similarly treated.

Considerable prehistoric find-groups in Northern Jugoslavia have also been published. These are: the Copper-Age finds at Nosza-Gyöngypart (FARKAS, 1973), the skeletons from the important Bronze-Age cemetery at Mokrin (FARKAS—LIPTÁK, 1971b; LENGYEL, 1972, 1974, 1974a, 1975; LENGYEL—FARKAS, 1972); the material of the neolithic site Vajška-Baba Sivačka (FARKAS, 1976).

Finally, have been published papers dealing with the burial-rite and the palaeopathological aspects of prehistory in Hungary (FARKAS, 1976a; FARKAS—MARCSIK, 1975), as well as the anthropological evaulation of the Copper-Age cemetery at Magyarhomoróg (FARKAS, 1976b).

All these investigations are, however, very far from exhausting all the possibilities, and the skeletons of several findspots, among them even major series, remain unknown.

It is regrettable that the Bronze-Age anthropological finds excavated by Ferenc Móra in the nineteen-twenties and thirties have not been published to this day. In the Department of Anthropology of the University in Szeged a great many prehistoric finds are stored and have not been made known so far.

We were induced by these facts about ten years ago, to begin studying the prehistoric skeletons from the southern part of the Great Hungarian Plain. Our aim has been to evaluate all the prehistoric palaeoanthropological material of the geographical area bordered by the rivers Tisza—Kőrös—Maros—Aranka and uncovered authentically.

Material investigated

In the course of the work, the material of the following sites — primarily in the southern part of the Great Hungarian Plain and in Northern Jugoslavia — were considered (in brackets we give the identity number of the findspot in the Tables 7—9):

1. From the Neolithic Age (b. o. e. 4000—2500)

A) Kőrös group (b. o. e. 4000—3200): Deszk—1 oil-well (1.1), Endrőd (1.2), Hódmezővásárhely—Bodzáspart (1.3), Hódmezővásárhely—Kopáncs Kovács farmstead (1.4), Hódmezővásárhely—Kopáncs Zsoldos farmstead (1.5), Hódmezővásárhely—Kotacpart Vata farmstead (1.6), Maroslele—Pana (1.7).

B) Tisza civilization (b. o. e. 2900—2500): Békés—Povádzug (1.8), Hódmezővásárhely—Gorzsa Czukor major (1.9), Hódmezővásárhely—Kökénydomb Kapocsi farmstead (1.10), Hódmezővásárhely—Kökénydomb Vörös farmstead (1.11), Nádudvar—Farkaslóré (1.12), Vésztő—Mágori halom (hill) (1.13).

C) Neolithic findspots not described in detail: Ada—Mohol (Northern Yugoslavia, 1.14), Békésszarvas—Szappanosi szőlők (vineyards) (1.15), Csóka—Kremenyák (N. Yug., 1.16), Hódmezővásárhely—Kökénydomb Kovács farmstead (1.17), Lebő (1.18), Megyesbodzás—Dózsa agricultural co-operative, Mogyorós, Ószentiván VIII (1.19).

2. From the Copper Age (b. o. e. 2400—2000)

A) Tiszapolgár civilization (b. o. e. 2400—2300): Deszk-A (2.1), Deszk-B (2.2), Hódmezővásárhely—Kotacpart Vata farmstead (2.3—2.4), Hódmezővásárhely-Népkert (2.5), Hódmezővásárhely—Szakálhát (2.6), Lebő-A (2.7), Ószentiván VIII (2.8).

B) Bodrogkeresztúr civilization (b. o. e. 2200—2100): Maroslele (2.9), Magyarhomoróg—Kónyadomb (2.10), Magyartés (2.11), Nosza-Gyöngypart (N. Yug., 2.12), Szentes—Kistőke Szegi farmstead (2.13), Szentes—Teés (2.14), Vajška—Baba Sivačka (N. Yug., 2.15), Zalota—Bökény crossing-place (2.16).

C) Pécel civilization (b. o. e. 2100—2000): Baja—György Dózsa street 233 (2.17), Hódmezővásárhely—Bodzáspart Pap farmstead (2.18), Orosháza—Bónum „Red Star" agricultural co-operative (2.19).

3. From the Bronze Age (b. o. e. 2000—1200):

A) From the early Bronze Age (b. o. e. 2000—1800): Battonya—„Red October" agricultural co-operative (3.1), Deszk-A (3.2), Hódmezővásárhely—Kökénydomb Szabó farmstead (3.3), Mokrin—Lalina humka (N. Yug., 3.4), Óbéba (N. Yug., 3.5), Ószentiván III, IV, and other sites (3.6—3.8), Pitvaros (3.9), Röszke (3.10), Szolnok—Rákóczifalva Kastélydomb (3.11), Szőreg-C (3.12), Szőreg—Pálfy brick-works (3.13), Törökkanizsa—Halászka holms (N. Yug., 3.14).

B) From the middle Bronze Age (b. o. e. 1800—1350): Deszk-A (3.15), Deszk-F (3.16), Hódmezővásárhely—Kopáncs Szabó farmstead (3.17), Hódmezővásárhely—Lelik farmstead (3.18), Kelebia (3.19), Szolnok—Rákóczifalva Kastély-

domb (3.20), Szőreg-C (3.21), Tiszafüred-Fertői halom (hill) (3.22), Tiszafüred—Majoros halom (hill) (3.23), Üllő—Löb puszta (steppe) (3.24).

Late phase of the middle Bronze Age: Deszk-A (3.25), Deszk-F (3.26), Hódmezővásárhely—Czukor major (3.27), Szőreg-C (3.28), Tiszafüred—Majoros halom (hill) (3.29).

C) From the late Bronze Age (b. o. e. 1350—1200): Bag (3.30), Szolnok—Rákóczifalva Kastélydomb (3.31), Tápé—Széntéglaégető (coalbrick-works) (3.32).

D) Bronze Age finds, not classified into phases: Hódmezővásárhely—State farm (3.33), Hódmezővásárhely—Kökénydomb Szabó farmstead (3.34), Katymár—Prispa (3.35), Szolnok—Rákóczifalva Kastélydomb (3.36), Szolnok—Water Management (3.37), Szőreg-C (3.38).

A part of these findspots is indicated in Figure 1.

Fig. 1.

Methods of investigation

The comparison of palaeoanthropological finds is, even in the case of a detailed evaluation, very much encumbered in that different methods have been applied by the individual authors. In evaluating the finds from the Southern Great Hungarian Plain, we were striving — for the sake

of biological reconstruction and taking into consideration the possibilities at our disposal — to apply all the methods of investigation that were suitable for elucidating the many facets of the find material. So we used the following methods:

— In establishing sex (sexus), we observed in part some morphological characters (MARTIN—SALLER, 1957—1966; NEMESKÉRI—HARSÁNYI, 1958), evaluated these individually on the basis of the five-grade scale (HARSÁNYI—FÖLDES, 1968), and established the sexuality index. In part — but not in the case of every findspot — the citrate content determined by chemical analysis (LENGYEL—NEMESKÉRI, 1963) was decisive. The reliability of the morphological characters determined was checked by comparing the archaeological and chemical determinations, carried out earlier on the same material (Mokrin), to each other (LENGYEL—FARKAS, 1972). All three determinations coincided 92 per cent of the time.

— For establishing the age at death, we were partly left to using traditional methods (MARTIN—SALLER, 1957—1966) owing to the bad state of preservation of the material. But the methodology serving for a more exact morphological determination (NEMESKÉRI—HARSÁNYI—ACSÁDI, 1960) and the results of the osteochemical investigations (LENGYEL, 1972), were also taken into consideration.

— The metric analysis was performed according to MARTIN's technique. In classifying the characteristics, the arrangement of Hug, MARTIN, and SALLER was taken as our basis. The stature was calculated by the method of BREITINGER and BACH (BREITINGER 1938; BACH 1965). In establishing the morphological features, MARTIN's prescriptions were used.

— In the taxonomical analysis we have depended on LIPTÁK's works. We had earlier established some „norm values" for the Europoids (FARKAS, 1972, Tables 1 to 6), on the basis of LIPTÁK's publications and, later on, we compared our data to these.

In judging the relative frequency of the single taxonomical categories according to archaeological periods, the dispersion of the relative frequency was taken into consideration. The lower limit of that was determined by the following formula:

$$p'_1 = \frac{p' + \frac{a^2}{2n} - \frac{a}{n} \cdot \sqrt{p'(1-p') + \frac{a^2}{4n}}}{1 + \frac{a^2}{n}}$$

while its upper limit was reckoned by the following formula:

$$p'_2 = \frac{p' + \frac{a^2}{2n} + \frac{a}{n} \cdot \sqrt{p'(1-p') + \frac{a^2}{4n}}}{1 + \frac{a^2}{n}}$$

where p' is the (empirical) relative frequency calculated from the sample, n is the number of elements of the sample, a is the Table value corresponding to reliability level 95 per cent.

— The biochemical and serological characteristics of bones were taken from IMRE LENGYEL (LENGYEL, 1972, 1975).

— In explaining anatomical variations and palaeopathological cases, we have taken for our basis some analogies described primarily after the pattern of BROTWELL (1959), FINNEGAN (1973, 1973a), MARTIN—SALLER (1957—1966), REGÖLY—MÉREI (1962), NATHAN—HAAS (1966) and others.

— In the biometric evaluation we made use of the methods applied to the antrhopological problems. The parameters were calculated with a computing machine of type R—40.

— In the palaeodemographic evaluation we leaned on the works of ANGEL (1969), and NEMESKÉRI (1970).

— In classifying the palaeoanthropological finds into archaeological periods, we have studied in addition to the original descriptions, the above- mentioned results of BÓNA, KALICZ, TROGMAYER, and B. KUTZIÁN.

— The coincidence between the mode of interment (right- or left-side one) and the result of the anthropological sex-determination was investigated with a 2×2 field contingence table, and a close connection was extablished.

Before examining the material of finds, its authenticity was checked in every case. And then, after the investigation was carried out by the methods mentioned above, we compared our data, with the results of foreign publications. Our conclusions were based on the results of the above-mentioned procedures.

Results

1. We studied 53 out of 128 neolithic-grave finds originating from the area of the southern Great Hungarian Plain, 117 out of the 261 graves ascribed to the Copper Age, as well as 1122 skeletons out of the finds of 2303 Bronze-Age graves in this investigation. Altogether 1292 finds of 2692 excavated graves were studied (Tables 7–9).

The number of findspots in the archaeological periods is as follows:

21 neolithic findspots (7 of the Kőrös group, 6 of the Tisza civilization, 8 neolithic findspots, not classified into phases);

20 findspots from the Copper Age (8 of the Tiszapolgár civilization, 8 of the Bodrogkeresztúr civilization, 3 of the Pécel civilization, 1 findspot, not classified into phases, of the Copper Age);

38 findspots from the Bronze Age (14 findspots of the early, 10 of the middle, 7 of the late Bronze Age, 1 tumulus, 6 Bronze Age findspots, not classified into phases).

In Hungary this was the first case of detailed anthropological observations on such a great number of skeletal materials from prehistory. This was supplemented by finds already published that don't belong in the strict sense of the word to the area of the southern Great Hungarian Plain and were drawn into the research in the course of comparison.

2. From the Neolithic Age 41.4 per cent, from the Copper Age 44.8 per cent, from the Bronze Age 48.7 per cent of the finds excavated could be studied (Table 10).

Only the skeletons of every second grave were practically rescued or — owing to the fragmentary preservation of the material rescued — only every second find was suitable for more detailed analysis. One of the basic preconditions of anthropological research of prehistory is to have a satisfying quantity of investigatable material at our disposal. It is therefore desirable in the future that during the excavations stronger stress be laid upon rescuing the finds.

3. For establishing the distribution according to sex and the age at death, there were 431 male, 415 female, and 314 infantile skeletons available for us (Tables 7—10).

The above numbers prove that the non-rescued finds came primarily from among the skeletons of children. This fact played a decisive part in the palaeodemographical evaluation. While from among the finds of the southern Great Hungarian Plain 9.4 per cent of the finds belong to the age-groups Infantia I—II, in the finds of similar period from the Ukraine this group appears with 67.1 per cent (KONDUKTOROVA, 1973), and among the finds from Bulgaria infantile skeletons are not even mentioned (BOEV, 1972).

Even if we determined the death age of finds exactly and with absolute certainly, our palaeodemographical conclusions would nonetheless be unrealistic, at least concerning the average age.

Moreover, it is striking that the number of those reaching their sixtieth year was quite low in the Neolithic Age.

In the Copper Age, the number of senile and adult ages increased. It is possible that this is but a sham result caused by the difference in the size of series.

In the Bronze Age, those between 0—14 years of age are represented in a cca 8 per cent higher ratio.

The palaeodemographical problems of the Middle-Danube basin were treated by NEMESKÉRI (1970). He established that the life expectancy increased from the Neolithic to the Copper Age, and after that it decreased. It was, however, noted, that his data were to be accepted with some reservation. We agree with him that several conditions ought to be fulfilled for enabling us to thoroughly reveal the pattern. In Hungary the major series necessary for this purpose are only available from the Bronze Age while the Neolithic Age is only represented by a very modest find material. Consequently, we want to give information in Table 11 on the connections between death ages and archaeological periods only on the basis of larger age groups.

4. As we have dealt with the problem of the archaeological and anthropological sex-determination in detail (FARKAS, 1976), here we only want to call attention to some of the more important relationships.

In the Neolithic Age no relation can be proved between the burial rite and sex.

In the Copper Age, in the cemeteries investigated, males were more often buried on their right sides, and females more often on their left sides. This burial custom has correlation coefficient r=0,691 calculated for the entire Copper Age. In the early Copper Age, the correlation of the two phenomena (r=0.658) is weaker than in the middle Copper Age (r=0.694).

In the early period of the Bronze Age, the correlation is still stronger (r=0.740). At that time, however, as opposed to the Copper Age, men were buried on their left, and females on their right sides. This may suggest the appearance of a new ethnic group.

In the middle Bronze Age the correlation between the two factors is already loose (r=0.354, and for the people of the tumulus civilization it is very loose (r= =0.075). That is to say, in case of the latter ones, the sex of skeleton is no longer determined by the side on which it lies in the grave.

The correlation between the two factors increased from the Neolithic Age through the early Bronze Age. Then it decreased, and in the late Bronze Age it was extremely weak.

5. According to the analysis of arithmetic means, every prehistoric phase is characterized, in the case of males, by the medium-long, narrow and medium-high cranium, the medium-high and orthognathous splanchnocranium (Table 12). The upper face is medium-high, the nasal cavity is medium-high, the palate is medium-long and mesen.

According to the indices, the upper face is narrow in the Neolithic and Bronze Ages. In some phases of the Bronze Age it is mesen. The orbit is high (hypsiconch) in the Neolithic Age. In all the other periods it is medium-high (mesoconch). The neurocranium is dolichocranic except for the middle Bronze Age when it is mesocranic. Brachycephalism, on the basis of the arithmetic mean, is not characteristic of any period and can be found in the whole series only 13 per cent of the time, and it occurs very rarely in the Copper Age.

The stature in the Neolithic Age is large-medium, after that it becomes shorter (medium). The large-medium stature is characteristic of the early Bronze Age, too.

It seems that in the late Bronze Age we have to reckon with the inflow of a dolichocephalic male population with larger stature.

Females have, in all the archaeological periods, a broad front, their face is medium-high, leptoprosope, the orbit is narrow, mesoconch, the nose is chamaerrhine,

the palate is narrow (Table 13). The cranium is, except for the middle Bronze Age, high.

The other features of women in the different periods are much more varied than those of men. The stature is, except for the late Bronze Age, tall or large-medium.

6. On the basis of the taxonomical analysis (354 finds), we have established for the various periods the following:

In the Neolithic Age, the taxonomical features of males and females are different. Among males primarily the Nordoids, among females the Mediterraneans occur. Brachycephalic ones have not been found among either sex. Among the Mediterraneans there are more Atlanto-Mediterraneans than gracile ones. But further finds are absolutely needed for describing the taxonomical picture of the Neolithic Age.

In the Copper Age, in case of males the ratio of Nordoids decreased. The frequency of Mediterraneans and Cromagnoids increased. Compared with the Neolithic Age, the female variability greatly decreased.

The brachycephalic individuals occured in the Copper Age, in the period of the Tiszapolgár civilization for males, and in the Bodrogkeresztúr civilization for females, but, as compared with the other taxons, in an significant number. In both sexes the ratio of the gracile Mediterranean and the Atlanto-Mediterranean variants became balanced.

In the Bronze Age, both among males and females, the Mediterranean group occurs the most frequently, but with decreasing importance. The main reason is primarily the numerical growth of Nordoids, Cromagnoids, and brachycephalic ones. Among males, the most frequent variant is the northern one, among females the Atlanto-Mediterranean. Among the Mediterraneans, in males the gracile, and in females the Atlanto-Mediterranean variants are more frequent. Among the brachycephalic ones, the Alpine race is comparatively more frequent.

Within the Bronze Age, the following is found among both males and females. In the early Bronze Age mainly the Nordoids prevail. In the middle Bronze Age and the late Bronze Age the Mediterranean groups dominate. Among both sexes the brachycephalic ones primarily appear in the early Bronze Age.

The taxonomical variants in the prehistory of the southern Great Hungarian Plain may be followed by other methods, as well. As is known, the transformation of the splanchno- and neurocrania was investigated by Debetz, by means of the praeauricular faciocerebral index. The change of this index was observed by Tóth on the material of the Carpathian basin (TÓTH, 1970, 1971, 1972, 1973). In the case of the finds of the tumulus cemetery at Tápé the value of the index is lower than in the case of the early Bronze Age material. That enables us to draw some inferences concerning the direction of migration.

7. In the case of the palaeopathological evaluation there emerges, unfortunately, the same problem as in drawing the palaeodemographical conclusions: it would be difficult to give the absolute frequency of a given anomaly or anatomical variation because of the incompleteness of the cemetery excavations.

The palaeopathological relationships of the prehistoric series will be mentioned by us in detail (FARKAS—MARCSIK, 1975); here we are only calling attention to a few significant facts.

In the case of the prehistoric series examined, a wide range of anatomical variations and congenital anomalies may be observed. In the case of the finds of the tumu-

lus civilization at Tápé only very few deformations can be observed. Among the early Bronze Age crania at Mokrin, however, the caries frequency was high.

In several cemeteries a large number of trepanned cases were found (Szőreg, Mokrin, Teés), by reason of which we have supposed the functioning of a much experienced „trepanation centre" in the Maros region, the members of which transferred their experiences to one another, from generation to generation.

8. According to the present-day archaeological approach, in the Neolithic Age the Carpathian basin was occupied by a new population coming probably from the direction of the Balkans (from south or south-east) and leading to an agricultural way of life. It is not impossible, either, that the mesolithic population living here also participated in the formation of the new population (KALICZ, 1970; BÓNA, 1972).

The verification of this conjecture was carried out on the basis of the anthropological material at our disposal. The results of the analysis performed by ANGEL, BOEV, BUNAK, CAPPIERI, KNUSSMANN, KONDUKTOROVA, NECRASOV, and SCHWIDETZKY were taken into consideration as comparative data. These deal with Asia Minor, the Balkan Peninsula, Central-, Northern,- and South-West Europe, and to the whole of Europe.

On the basis of all these, we were led to the conclusion that the peopling of the Carpathian basin in the Neolithic Age from southern or south-eastern direction (and possibly from both) can be supported with anthropological data, and even a migration from the east cannot be excluded. At the same time, a migration from the north-east (NEMESKÉRI, 1944) would demand, in our opinion, further confirmation. These conclusions of ours are confirmed largely by the results of SCHWIDETZKY (1967, 1967a, 1967b, 1967c) who found great similarity between the finds from Greece, Yugoslavia (Vinča), and Bulgaria, and established that in the Neolithic Age in the southern part of Europe a uniform population complex came into being. The data from Hungary were omitted from the investigation obviously for want of being published. The investigations showed some taxonomical similarity to the populations of the mentioned areas in the Neolithic Age.

9. The origin of the Copper Age civilization in the Carpathian basin is traced back by archaeologists to the Tisza civilization, assuming a migration from the south (KALICZ, 1970; BÓNA, 1972).

To investigate this supposition, we used, apart from the material concerning the southern Great Hungarian Plain, the data of CAPPIERI (1969, 1970, 1970a), BOEV (1972), KONDUKTOROVA (1973), NECRASOV (1965) and established, on the basis of these, the following:

The finds of the southern Great Hungarian Plain are unequivocally favourable to the supposition that the Copper Age population is of southern origin. That is also confirmed by the approximately 49 per cent frequency of the Mediterraneans. The percentage (17 p.c.) of Cromagnoids did not change with respect to the Neolithic Age. But it is not excluded by the find from Csongrád-Kettőshalom (MARCSIK, 1974), either, that the Copper Age people of this type got into the Carpathian basin from the east. In that period the brachycephalic elements are also represented in the Alpine race (Kotacpart, Kistőke). It is exactly this that supports the supposition that the effect of the Transdanubian Balaton group may have extended over the southern Great Hungarian Plain, too.

Concerning the Pécel civilization we cannot give, because of lack of finds, any additional data. It would also be difficult, in default of anthropological data, to take

part in the question of how the Balaton civilization was related to the Cucuteni–Tripolje civilization (BÓNA, 1972). TÓTH, in one of his publications (1970), calls attention to the fact that he thought the discovered some morphological similarity between the Baden (Pécel) civilization in Hungary and the Tripolje series.

The archaeological observation that the burial rite became more consequential in this period (BÓNA, 1972), can be proved with anthropological data unambiguously.

10. Archaeologists suppose an immigration from the south and east, and in the case of the tumulus civilization a western origin (BÓNA, 1972; TROGMAYER, 1975) in the Bronze Age.

The data from the southern Great Hungarian Plain were compared to the results of TÓTH, NECRASOV, CRISTESCU, BOEV, STROUHAL, JELINEK, EHGARTHNER, MISZKIEWICZ (TÓTH, 1970, 1971, 1972; NECRASOV—CRISTESCU, 1965; BOEV, 1972; STROUHAL, 1964; JELINEK, 1965; EHGARTHNER, 1959; MISZKIEWICZ, 1972).

Concerning the Bronze Age of the southern Great Hungarian Plain, it can be established that the Carpathian basin became filled with people from southern and eastern directions in the early Bronze Age. That is verified with anthropological data as well. At the same time, it seems to us that the people arriving from the east may have had greater importance which is rendered probable by the increase in the ratio of Nordoids and Cromagnoids and the decrease in that of the Mediterraneans. In addition, the relationship between the Pitvaros group and the Nagyrév civilization is to be supposed as well. This latter establishment is reinforced by the fact that in the archaeological material of the so-called Pitvaros group of the early Bronze Age there was a pot belonging to the Nagyrév civilization as grave-furniture in the grave of a brachycephalic female, who was different even in this taxonomical respect (FARKAS, 1971).

The anthropological data from the southern Great Hungarian Plain are in accord with the archaeological observations of the middle Bronze Age. The Balcanic effect can be considered verified. From the late phase of the middle Bronze Age we have but few finds from the southern Great Hungarian Plain. Therefore, we cannot prove or disprove the migration process supposed.

The western origin of the tumulus civilization does not seem to be verified on the basis of the material of the cemetery at Tápé as the frequency of Mediterraneans is 60 per cent. At the same time, the immigration from the west is confirmed by the anthropological observations in Slovakia, Austria, and Poland. The antagonism between western origin and taxonomical distribution is explained by the fact that only about 10 per cent of the 600 finds could be analysed by a taxonomical method. The percentile distribution is, in this case, misleading (the dispersion of the relative frequency is large, Table 14). At the same time, we should like to refer again to the fact that the value of the preaauricular cerebral index does not fit in well with the finds from Tápé. This supports, in an indirect way, the deviation from the earlier, southern direction of migration in the case of the tumulus civilization.

Table 1. Characteristics of Europid Males.

Characteristic	crA $n^+ = 23-33$	crB $n = 3-12$
1. Cranial contour Cranial capacity	Ov.-Ell. 1419 ± 120 Euencephalic	Pent.-Spher. 1495 ± 169 Aristencephalic
2. First cran. dim. 8th cran. dim. 17th cran. dim.	186 ± 6 medium 142 ± 6 medium 132 ± 6 medium	179 ± 8 short 147 ± 6 medium 134 ± 8 medium
3. 8:1 index 17:1 index 17:8 index	76 ± 2 mesocranic 71 ± 3 orthocranic 93 ± 5 metriocranic	92 ± 4 brachycranic 74 ± 4 orthocranic 91 tapeinocranic
4. 9:8 index Frontal shape Glabella	70 ± 4 eurymetopic moder. prognathic 3—4	68 ± 3 metriometopic 2
5. 47:45 index 48:45 index 72nd cran. dim.	81 ± 4 euryprosop. 49 ± 3 euryen 85 ± 4 orthognath.	82 ± 4 euryprosop. 48 ± 2 euryen 86 ± 4 orthognathous
6. 52:51 index Orbital shape	78 ± 6 mesoconch angular, oblong	77 ± 9 mesoconch angular, oblong
7. 54:55 index Nasal shape	53 ± 5 chamaerrhine protruding, straight or curved	56 ± 4 chamaerrhine protruding, concave
8. Fossa canina Branch of mandible	4—6 low	4 high, medium
9. Spec. type-char.	square face gonion projecting	square face gonion projecting
10. Stature Skeleton	168 ± 4 big medium robust	162 ± 2 small medium robust
Prot. occ. ext. Spina nas. ant. Alv. progn.	2—1 2—3 1—2	0 2 2

n^+ = in the Tables the case-number (n) is different according to characters, e. g. for the taxon crA it ranges between 23 and 33.

Table 2. Characteristics of Europid Males.

pn n = 5 – 13	n n = 39—78	m n = 29—49
Ov.-Ell. 1405 ± 92 Euencephalic	Ov.-Ell. 1477 ± 104 Aristencepahlic	Pent.-Ov.-Ell. 1319 ± 89 Euencephalic
193 ± 7 long 139 ± 4 narrow 134 ± 6 medium	190 ± 6 long 141 ± 5 medium 136 ± 6 medium	181 ± 6 medium 134 ± 5 narrow 131 ± 5 medium
73 ± 4 dolichocranic 71 orthocranic 96 ± 5 metriocranic	74 ± 3 dolichocranic 72 ± 3 orthocranic 97 ± 5 metriocranic	74 ± 3 dolichocranic 73 ± 3 orthocranic 97 ± 5 metriocranic
70 ± 2 eurymetopic 5	70 ± 3 eurymetopic arcuate, modestly protruding 3	70 ± 4 eurymetopic arcuate 1—3
96 ± 7 h. leptopr. 57 ± 5 lepten 86 ± 3 orthognathous	92 ± 4 leptoprosope 55 ± 3 lepten 87 ± 3 orthognath.	93 ± 5 leptoprosope 55 ± 3 lepten 85 ± 4 orthognathous
82 ± 7 mesoconch	84 ± 7 mesoconch angular	84 ± 6 mesoconch round
48 ± 4 mesorrhine	48 ± 4 mesorrhine straight, convex	49 ± 5 mesorrhine straight
2 or 4	2—3	2—3 medium
sharp, gerontomorphous	big abs. measurements	gracile, small abs. measure- ment
169 ± 3 big medium	169 ± 5 big medium robust	161 ± 5 small medium gracile
3 2—4 1—3	1—2 2—3 1—2	0—1 4 1—2

Table 3. Characteristics of Europid Males.

am n=7—12	a n=2—6	p n=12—18
Pent. 1377±120 Euencephalic	Pent.-Ov. 1419±95 Euencephalic	Pent.-Sphen.-Spher. 1500±111 Aristencephalic
185±3 medium 135±4 narrow 133±4 medium	176±6 short 144±3 medium 133±4 medium	178±7 short 151±6 broad 136±6 medium
73±2 dolichocranic 72±3 orthocranic 99±4 acrocranic	82±3 brachycranic 75±2 hypsicranic 92±3 metriocranic	85±5 h. brachycranic 76±3 hypsicranic 91±6 tapeinocranic
71±2 eurymetopic 2—3	66±3 metriometop. arcuate 2	65±2 stenometopic steep 2—3
92±5 leptoprosope 56±4 lepten 86±3 orthognathous	88±3 mesoprosope 51±2 mesen 86±3 orthognath.	88±3 mesoprosope 53±2 mesen 85±4 orthognathous
87±5 hypsiconch	86±5 hypsiconch round	85±7 hypsiconch
46±3 leptorrhine	50±4 mesorrhine straight, short	46±3 leptorrhine modestly protruding, straight or curved
2—3	2 medium	1—4
extremely high, narrow face	curvoccipitalia	lambdoid region is flat, forehead steep, curvoccipitalia
168±4 big medium	162±7 small medium, medium	167±3 big medium
0—2 4 1—3	0 or 2 3 1	1—2 3 1

Table 4. Characteristics of Europid Females.

crA n=9—16	crB n=9—15	n n=26—65
Ov.-Ell.-Sphen. 1342±81 Aristencephalic	Ov.-Sphen. 1280±132 Euencephalic	Ov.-Pent. 1300±98 Euencephalic
180±5 long 137±3 medium 129±6 medium	169±8 short 140±6 medium 125±5 medium	181±5 long 135±4 medium 129±6 medium
76±2 mesocranic 72±3 orthocranic 95±5 metriocranic	83±2 brachycranic 73±3 orthocranic 89±4 tapeinocr.	74±3 dolichocranic 72±3 orthocranic 96±5 metriocranic
70±3 eurymetopic modestly protruding 1—2	68±3 metriometop. 1—2	70±3 eurymetopic arcuate 1—2
80±5 euryprosope 48±3 euryen 83±5 mesognathous	84±5 euryprosope 50±3 mesen 84±4 mesognath.	91±4 leptoprosope 54±3 mesen 85±4 orthognathous
82±6 mesoconch angular, oblong	83±6 mesoconch modestly angular	85±5 hypsiconch round
51±6 chamaerrhine straight, convex	51±4 chamaerrh. straight, concave	48±4 mesorrhine straight, convex
2—3 low	2—3 high	2—4 high
square face, gonion projecting	square face, gonion projecting	
156±3 big medium medium	151±3 small medium medium	157±3 big medium medium
1—3 2—3 2	0—1 2 1—3	0—1 1—3 1—3

Table 5. Characteristics of Europid Females.

m n = 29—46	am n = 7—9
Pent.-Ov. 1204 ± 72 Euencephalic	Ov.-Pent. 1326 ± 117 Aristencephalic
175 ± 4 medium 132 ± 5 narrow 126 ± 4 medium.	180 ± 7 long 134 ± 4 narrow 130 ± 5 medium
75 ± 3 mesocranic 72 ± 2 orthocranic 96 ± 4 metriocranic	75 ± 4 mesocranic 72 ± 2 orthocranic 97 ± 4 metriocranic
70 ± 3 eurymetopic arcuate 1—2	71 ± 3 eurymetopic 1—2
90 ± 4 leptoprosope 55 ± 3 lepten 85 ± 3 orthognathous	95 ± 6 h. leptoprosope 58 ± 4 lepten 84 ± 2 mesognathous
86 ± 5 hypsiconch round	91 ± 9 hypsiconch
49 ± 5 mesorrhine	47 ± 6 mesorrhine
1—4	2—3
gracile	
152 ± 4 small medium gracile	159 ± 2 tall
0—1 1—3 2—3	0—1 2 2—3

Table 6. Characteristics of Europid Females.

a n=4—10	p n=4—14
Sphen.-Spher.-Ov. 1325±108 Aristencephalic	Pent.-Sphen. 1280±114 Euencephalic
172±6 medium 142±5 medium 127±5 medium	171±7 medium 144±8 medium 130±7 medium
83±2 brachycranic 74±3 orthocranic 89±3 tapeinocranic	84±3 brachycranic 77±5 hypsicranic 93±6 metriocranic
66±3 metriometopic arcuate 1	65±4 stenometopic 1—2
89 mesoprosope 52±1 mesen 86±4 orthognathous	89±3 mesoprosope 54±2 mesen 88±3 orthognathous
86±3 hypsiconch round	84±5 mesoconch
50±4 mesorrhine	49±4 mesorrhine
2—3 medium	
curvoccipitalia	
151±2 small medium medium	155±3 medium
0—1 2—3 2	0 4 2

Table 7. Summary of the Neolithic Age findspots taken into consideration.

Findspot	Excavator, year of excavation	Archaeological age	Grave excavated					Find examined				
			M	F	Ch.	?	Tog.	M	F	Ch.	?	Tog.
4.1.1.	TROGMAYER, 1968	Körös group	1	1	—	—	2	—	2	—	—	2
4.1.2.	MÓRA, 1930	Körös group	1	—	—	2	3	1	—	—	—	1
4.1.3.	BANNER, 1939	Körös group	—	—	1	2	3	1	—	—	—	1
4.1.3.	BANNER, 1948	Körös group	1	—	—	6	7	—	—	—	—	—
4.1.4.	BANNER, 1932	Körös group	—	—	2	2	4	—	—	—	—	—
4.1.5.	BANNER, 1931	Körös group	1	2	3	3	9	—	—	—	—	—
4.1.6.	BANNER, 1934	Körös group	2	1	2	6	11	6	4	—	—	10
4.1.7.	TROGMAYER, 1963	Körös group	2	1	1	1	5	2	1	1	1	5
		Together:	8	5	9	22	44	10	7	1	1	19
4.1.8.	TROGMAYER, 1958	Tisza civilization	4	2	—	1	7	4	2	—	—	6
4.1.9.	GAZDAPUSZTAI, 1956—57	Tisza civilization	—	—	—	9	9	—	—	—	—	—
4.1.9.	GAZDAPUSZTAI, 1963	Tisza civilization	1	2	1	—	4	1	2	1	—	4
4.1.10.	BANNER, 1928	Tisza civilization	5	4	3	3	15	—	—	—	—	—
4.1.10.	BANNER, 1941	Tisza civilization	—	1	1	—	2	—	1	1	—	2
4.1.10.	BANNER, 1942	Tisza civilization	—	—	1	—	1	—	—	1	—	1
4.1.11.	BANNER, 1941	Tisza civilization	—	1	—	—	1	—	1	—	—	1
4.1.12.	GAZDAPUSZTAI, 1962	Tisza civilization	—	—	2	—	2	—	—	2	—	2
4.1.13.	HEGEDŰS, 1972	Tisza civilization	4	4	5	2	15	4	4	5	—	13
		Together:	14	14	13	15	56	9	10	10	—	29
4.1.14.	KRECSMÁRIK, 1926	Neolithic Age	—	—	—	1	1	—	—	—	—	—
4.1.15.	KRECSMÁRIK, 1911	Neolithic Age	1	1	1	2	5	—	—	—	—	—
4.1.16.	GUBITZA, 1904	Neolithic Age	—	—	—	1	1	—	—	—	—	—
4.1.16.	MÓRA, 1907—13	Neolithic Age	—	1	1	7	9	—	—	—	—	—
4.1.17.	BANNER, 1928	Neolithic Age	2	—	2	1	5	—	—	—	—	—
4.1.18.	REIZNER, 1904?	Neolithic Age	—	—	—	3	3	1	—	—	—	1
4.1.19.	Museum of Szeged?	Neolithic Age	1	—	—	—	1	1	—	—	—	1
4.1.19.		Neolithic Age	—	1	—	—	1	—	1	—	—	1
4.1.19.	KOREK, 1943	Neolithic Age?	—	1	—	—	1	—	1	—	—	1
4.1.19.	B. KUTZIÁN, 1960	Neolithic Age	1	—	—	—	1	1	—	—	—	1
		Together:	5	4	4	15	28	3	2	—	—	5
		Altogether:	27	23	26	52	128	22	19	11	1	53

Table 8. Summary of the Copper Age findspots taken into consideration.

Findspot	Excavator, year of excavation	Archaeological age	Grave excavated					Find examined				
			M	F	Ch.	?	Tog.	M	F	Ch.	?	Tog.
4.2.1.	MÓRA, 1930—31	Tiszapolgár civ.	2	9	1	1	13	2	3	—	—	5
4.2.2.	MÓRA, 1930—31	Tiszapolgár civ.	7	3	1	3	14	4	3	1	—	8
4.2.3.	PÁRDUCZ—BANNER, 1932—33	Tiszapolgár civ.	10	5	6	5	26	5	5	1	—	11
4.2.4.	BANNER, 1933—34	Tiszapolgár civ.	1	7	6	2	16	2	5	1	—	8
4.2.5.	GAZDAPUSZTAI, 1960, 1963, NAGY K. 1965	Tiszapolgár civ.	1	4	—	1	6	—	2	—	—	2
4.2.6.	BANNER—BÁLINT, 1934	Tiszapolgár civ.	—	1	—	—	1	—	—	—	—	—
4.2.6.	BANNER, 1935	Tiszapolgár civ.	—	1	—	—	1	—	1	—	—	1
4.2.7.	MÓRA, 1928, 1930	Early Copper Age	2	11	2	3	18	2	2	1	—	5
4.2.7.	REIZNER, 1904	Early Copper Age	—	—	—	3	3	—	—	—	—	—
4.2.7.	KOREK—PÁRDUCZ, 1950	Early Copper Age	5	6	2	1	14	—	—	—	—	—
4.2.7.	TROGMAYER, 1956	Tiszapolgár civ.	2	1	—	—	3	2	—	—	—	2
4.2.8.	TÓTH, 1942	Tiszapolgár civ.	1	1	—	—	2	—	2	—	—	2
4.2.8.	B. KUTZIÁN, 1960	Tiszapolgár civ.	—	1	—	—	1	1	—	—	—	1
		Together:	31	50	18	19	118	18	23	4	—	45
4.2.9.	?	Bodrogkeresztúr c.	—	2	—	—	2	—	2	—	—	2
4.2.10.	DIENES—PATAY, 1961—70	Bodrogkeresztúr c.	16	19	2	47	84	18	15	6	9	48
4.2.11.	CSALLÁNY G., 1937	Bodrogkeresztúr c.	1	1	3	1	6	2	—	1	—	3
4.2.12.	Museum of Subotica, 1952—54	Bodrogkeresztúr c.	5	2	—	—	7	5	2	—	—	7
4.2.13.	CSALLÁNY G., 1930	Bodrogkeresztúr c.	7	19	2	—	28	1	1	—	—	2
4.2.14.	?	Bodrogkeresztúr c.	1	1	1	—	3	1	1	—	—	2
4.2.15.	BRUKNER—MEDOVIĆ, 1966—67	Bodrogkeresztúr c.	1	5	—	—	6	1	5	—	—	6
4.2.16.	Museum of Szentes, 1932	Bodrogkeresztúr c.	1	1	—	—	2	—	—	—	—	—
		Together:	32	50	8	48	138	28	26	7	9	70
4.2.17.	KŐHEGYI, 1960	Pécel civilization	1	—	—	—	1	1	—	—	—	1
4.2.18.	BANNER, 1939	Pécel civilization	—	—	—	1	1	—	—	—	—	—
4.2.18.	BANNER, 1948	Pécel civilization	—	—	—	1	1	—	—	—	—	—
4.2.19.	OLASZ, 1960	Pécel civilization	—	—	1	1	2	—	—	1	—	1
		Together:	1	—	1	3	5	1	—	1	—	2
		Altogether:	64	100	27	70	261	47	49	12	9	117

Table 9. Summary of the Bronze Age findspots taken into consideration.

Findspot	Excavator, year of excavation	Archaeological age	Grave excavated					Find examined				
			M	F	Ch.	?	Tog.	M	F	Ch.	?	Tog.
4.3.1.	GAZDAPUSZTAI, 1964—66	Early Bronze Age	11	13	25	10	59	11	13	25	10	59
4.3.2.	MÓRA, 1930—31	Early Bronze Age	3	4	—	—	7	1	—	—	—	1
4.3.3.	BANNER—FOLTINY, 1940	Early Bronze Age	—	—	—	2	2	—	1	—	—	1
4.3.4.	GIRIĆ, 1958—69	Early Bronze Age	90	101	95	26	312	77	86	58	16	237
4.3.5.	? 1902	Early Bronze Age	—	—	—	10	10	—	—	—	—	—
4.3.5.	REIZNER—TÖRÖK, 1903	Early Bronze Age	6	7	1	4	18	—	—	—	—	—
4.3.6.	BANNER, 1926—27	Early Bronze Age	1	6	2	5	14	—	—	—	—	—
4.3.6.	BANNER, 1928	Early Bronze Age	9	7	2	1	19	—	—	—	—	—
4.3.6.	BANNER, 1929	Early Bronze Age	1	1	3	—	5	1	1	—	—	2
4.3.7.	BANNER, 1926	Early Bronze Age	—	—	—	3	3	—	—	—	—	—
4.3.8.	KOREK, 1943	Early Bronze Age	—	—	—	1	1	—	—	—	—	—
4.3.9.	MÓRA, 1926	Early Bronze Age	10	13	1	20	44	6	7	1	—	14
4.3.10.	MÓRA, 1927—28	Early Bronze Age	—	—	—	3	3	1	1	—	—	2
4.3.11.	KAPOSVÁRI, 1957	Early Bronze Age	—	—	—	1	1	—	—	—	—	—
4.3.11.	CSALOG ZS., 1962	Early Bronze Age	—	—	—	9	9	2	—	—	1	3
4.3.12.	MÓRA, 1928—31	Early Bronze Age	21	5	2	6	34	6	9	5	—	20
4.3.13.	?	Early Bronze Age	1	—	—	—	1	1	—	—	—	1
4.3.14.	WAGNER, 1890	Early Bronze Age	—	4	1	—	5	—	—	—	—	—
		Together:	153	161	132	101	547	106	118	89	27	340
4.3.15.	MÓRA, 1930—31	Middle Bronze Age	15	14	—	7	36	4	5	—	—	9
4.3.16.	MÓRA, 1932	Middle Bronze Age	28	23	2	15	68	16	10	4	—	30
4.3.18.	BANNER, 1941	Middle Bronze Age	—	1	—	1	2	1	—	—	—	.1
4.3.19.	ZALOTAY, 1954	Middle Bronze Age	—	—	—	125	125	1	4	6	—	11
4.3.20.	CSALOG ZS., 1962	Middle Bronze Age	—	—	—	3	3	—	—	—	—	—
4.3.21.	MÓRA, 1928—31	Middle Bronze Age	41	27	4	13	85	24	19	6	—	49
4.3.22.	CSALOG ZS., 1964	Middle Bronze Age	—	—	—	25	25	—	—	—	—	—
4.3.23.	CSALOG ZS., 1961—64, KOVÁCS T., 1966—71	Middle Bronze Age	—	—	—	370	370	—	3	2	—	5
		Together:	84	66	6	559	715	46	42	18	—	106

Table 9. (continued).

Findspot	Excavator, year of excavation	Archaeological age	Grave excavated					Find examined				
			M	F	Ch.	?	Tog.	M	F	Ch.	?	Tog.
4.3.25.	MÓRA, 1930—31	Late	1	—	2	3	6	—	—	—	—	—
4.3.26.	MÓRA, 1932	phase	1	—	—	1	2	1	—	—	—	1
4.3.27.	GAZDAPUSZTAI, 1963	of	—	—	1	—	1	—	—	1	—	1
4.3.28.	MÓRA, 1928—31	middle	24	14	10	11	59	9	15	3	—	27
4.3.29.	CSALOG Zs., 1961, 1964 KOVÁCS T., 1966—71	Bronze Age	—	—	—	246	246	—	—	—	—	—
		Together:	26	14	13	261	314	10	15	4	—	29
4.3.30.	MOZSOLICS, 1949	Late	1	—	—	—	1	1	—	—	—	1
4.3.31.	CSALOG Zs., 1962	Bronze	2	2	9	50	63	2	2	9	20	33
4.3.32.	TROGMAYER, 1960—66	Age	186	159	162	72	579	186	159	162	72	579
		Together:	189	161	171	122	643	189	161	171	92	613
4.3.33.	GAZDAPUSZTAI, 1964	Bronze Age	2	—	—	—	2	2	—	—	—	2
4.3.34.	BANNER—FOLTINY, 1940	Bronze Age	—	—	—	4	4	—	—	1	—	1
4.3.35.	KŐHEGYI, 1960	Bronze Age	—	—	1	5	6	—	—	1	—	1
4.3.36.	CSALOG Zs., 1962	Bronze Age	2	5	4	3	14	2	5	4	3	14
4.3.37.	Museum of Szolnok?	Bronze Age	1	—	—	—	1	1	—	—	—	1
4.3.38.	MÓRA, 1928—31	Bronze Age	6	5	37	10	57	6	6	3	—	.15
		Together:	11	10	41	22	84	11	11	9	3	34
		Altogether:	463	412	363	1065	2303	362	347	291	122	1122
Sum of the complete material investigated:			554	535	416	1187	2692	431	415	314	132	1292

Table 10. Summary of the finds investigated according to archaeological ages.

Archaeological Age	Finds investigated									
	No. of the finds excavated					Percentage of the finds excavated				
	M	F	Ch.	?	Together	M	F	Ch.	?	Together
Neolithic Age:										
Kőrös group	10	7	1	1	19	?	?	11,1	4,5	43,2
Tisza civilization	9	10	10	—	29	64,3	71,4	76,9	0	51,8
No civilization determined	3	2	—	—	5	60,)	50,0	0	0	17,9
Sum of Neolithic Age:	22	19	11	1	53	81,5	73,9	42,3	1,9	41,4
Copper Age:										
Tiszapolgár civilization	18	23	4	—	45	58,1	46,0	22,2	0	38,1
Bodrogkeresztúr civilization	28	26	7	9	70	87,5	52,0	87,5	18,8	58,8
Pécel civilization	1	—	1	—	2	100,0	0	100,0	0	40,0
Sum of Copper Age:	47	49	12	9	117	76,6	49,0	44,4	12,8	44,8
Bronze Age:										
Early Bronze Age	106	118	89	27	340	69,3	73,3	67,4	26,7	62,2
Middle Bronze Age	46	42	18	—	106	54,8	63,6	?	0	14,8
Late phase of the Middle B. A.	10	15	4	—	29	38,4	?	30,7	0	9,2
Late Bronze Age	189	161	171	92	613	100,0	100,0	100,0	75,4	95,3
No civilization determined	11	11	9	3	34	100,0	?	21,9	13,6	40,5
Sum of Bronze Age:	362	347	291	122	1122	78,2	84,2	80,2	11,5	48,7
Prehistoric Ages altogether:	431	415	314	132	1292	77,8	77,2	75,5	11,1	48,0

Table 11. Distribution of the material investigated according to ages at death, sexes, and archaeological Ages.

Archaeological Age and Sex / Age at death		Neolithic Age			Copper Age			Bronze Age			Together		
		M	F	Ch.	M	F	Ch.	M	F	Ch.	M	F	Ch.
Infantia I.	n	—	—	4	—	—	—	—	—	76	—	—	80
	%			8,7						8,5			7,7
Infantia II	n	—	—	4	—	—	7	—	—	168	—	—	179
	%			8,7			7,2			18,8			17,2
Juvenile	n	—	1	—	12	2	2	12	6	34	13	9	36
	%		2,2		1,0	2,1	2,1	1,3	0,7	3,8	1,3	0,9	3,5
Adult	n	9	14	—	10	27	—	165	201	—	184	242	—
	%	19,6	30,4		10,3	27,8		18,4	22,5		17,7	23,3	
Maturus	n	8	1	—	16	6	—	103	73	—	127	80	—
	%	17,4	2,2		16,5	6,2		11,5	8,2		12,2	7,7	
Senium	n	3	2	—	15	11	—	28	29	—	46	42	—
	%	6,5	4,3		15,5	11,3		3,1	3,2		4,4	4,1	
Together:	n	20	18	8	42	46	9	308	309	278	370	373	295
	%	43,5	39,1	17,4	43,3	47,4	9,3	34,4	34,5	31,1	35,6	35,9	28,4
Altogether:		46			97			895			1038		

Table 12. Parameters of the main characteristics. — Males.

Archaeological Ages Characteristic	I. Neolithic Age		II. Copper Age		III. Bronze Age		Prehistoric Ages together	
	n	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$
1.	14	180,78	27	178,37	206	177,82	247	178,05
8.	14	135,50	27	132,22	195	134,43	236	134,24
9.	13	92,92	20	93,10	182	93,77	215	93,66
17.	5	136,80	7	133,71	47	132,38	59	132,91
20.	13	115,30	12	113,08	123	113,15	148	113,33
45.	5	115,00	4	112,00	43	122,13	52	120,66
47.	8	112,25	5	109,60	55	110,92	68	110,98
48.	7	67,42	8	61,50	63	66,32	78	65,92
51.	7	38,57	11	37,63	66	38,57	84	38,45
52.	9	31,00	11	31,90	72	32,56	92	32,42
54.	7	26,57	10	25,00	48	24,71	65	24,95
55.	7	47,71	10	48,60	61	48,36	78	48,33
62.	8	44,75	13	42,38	38	42,31	59	42,66
63.	9	37,11	13	35,69	45	36,55	67	36,46
8:1	14	74,93	24	74,01	179	75,04	217	74,92
17:1	5	76,20	7	74,48	47	75,89	59	75,75
17:8	5	102,40	7	102,80	45	97,22	57	98,36
9:8	13	68,62	19	70,73	155	69,52	187	69,58
47:45	4	98,48	2	98,50	35	91,46	41	92,49
48:45	3	59,47	5	58,98	40	54,65	48	55,40
52:51	7	80,04	9	83,12	63	84,36	79	83,84
54:55	6	55,53	8	51,59	41	51,05	55	51,62
63:62	8	84,80	12	83,3)	34	87,73	54	86,31
Calc. stature	6	159,38	10	160,52	170	156,06	186	156,41

Table 13. Parameters of the main characteristics. — Females.

Archaeological Ages / Characteristic	I. Neolithic Age		II. Copper Age		III. Bronze Age		Prehistoric Ages together	
	n	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$	n	$\bar{x}$
1.	13	188,15	24	189,45	200	186,35	237	186,76
8.	15	138,20	26	136,50	191	136,33	232	136,46
9.	16	97,87	21	97,76	181	96,36	218	96,61
17.	4	132,75	8	136,87	42	136,78	54	136,50
20.	8	116,75	11	118,09	139	116,59	158	116,70
45.	2	128,50	7	131,1[illegible]	51	129,86	60	129,96
47.	5	118,60	9	119,11	69	116,14	83	116,12
48.	6	71,00	12	71,16	72	69,17	90	69,55
51.	7	38,71	13	40,23	82	39,50	102	39,54
52.	7	33,71	13	31,69	93	32,41	113	32,41
54.	6	26,66	14	25,85	60	25,03	80	25,30
55.	7	51,57	12	51,16	75	51,71	94	51,63
62.	9	44,33	16	45,81	48	43,75	73	44,26
63.	9	39,22	15	38,46	60	38,26	84	38,40
8:1	12	74,01	22	73,08	175	73,51	209	73,49
17:1	2	77,24	8	73,66	42	75,08	52	74,94
17:8	8	80,65	8	100,62	42	96,72	58	95,04
9:8	9	72,19	19	71,24	155	70,97	183	70,73
47:45	2	89,50	5	94,90	45	89,72	52	90,21
48:45	2	55,65	7	56,70	45	54,27	54	54,63
52:51	7	87,00	13	79,01	79	82,27	99	82,18
54:55	5	53,18	11	50,50	58	49,84	74	50,16
63:62	7	87,46	13	83,1[illegible]	45	89,22	65	87,81
Calc. stature	11	169,46	7	165,91	186	165,62	204	165,84

Table 14. Absolute and relative frequency of the taxonomical groups, confidence intervals of the relative frequencies according to archaeological Ages.

Taxonomical groups \ Archaeological Ages		Neolithic Age	Copper Age	Bronze Age	Together
Nordoids	n	15	10	82	107
	%	55,5	28,6	28,1	30,2
	$p_1 - p_2$	37,3—72,2	15,5—44,1	23,3—33,6	25,6—35,1
Cromagnoids	n	3	6	50	59
	%	11,1	17,1	17,1	16,7
	$p_1 - p_2$	4,0—27,8	8,1—32,6	13,3—21,8	13,2—20,8
Mediterraneans	n	9	17	116	142
	%	33,3	48,6	39,7	40,1
	$p_1 - p_2$	18,9—51,8	33,2—64,2	34,3—45,4	35,2—45,2
Brachycrans	n	—	2	44	46
	%	—	5,7	15,1	13,0
	$p_1 - p_2$	—	1,7—18,4	11,3—19,8	11,0—15,7
Sum total:	n	27	35	292	354

References

ANGEL, J. L. (1969): The basis of palaeodemography. — Am. J. Phys. Antr. *30*, 427—437.

BACH, H. (1965): Zur Berechnung der Körperhöhe aus den langen Gliedmassenknochen weiblicher Skelette. — Anthrop. Anz. *29*, 12—21.

BANNER, J. (1932): A Marosvidék bronzkori zsugorított temetkezéseinek sírmellékletei (Grave-furniture of the contracted burials in the Maros-region from the Bronze-Age). — A Szegedi Városi Múzeum Kiadványai (Publications of the Town Museum in Szeged) *3*, 1—53.

BANNER, J. (1937): Die Ethnologie der Körös-Kultur. — Dolg. 13. 32—49.

BARTUCZ, L. (1916): A Büdöspest barlangban talált neolitkori embercsontváz (The Neolithic-Age human skeleton in the cave Büdöspest). — Barlangkutatás (Spelaeology) *4*, 109—136, 167—185.

BARTUCZ, L. (1938): A magyar ember. A magyarság antropológiája (The Hungarian: Anthrropology of the Hungarian people). — Budapest *4*, 437—443.

BARTUCZ, L. (1966): Palaeopathologia III. A praehistorikus trepanáció és orvostörténeti vonatkozású sírleletek (The prehistoric trepanation and some grave-goods bearing a relation to the medical history). — Orsz. Orvostört. Könyvtár Kiadványai (Publication of the National Library of Medical History). Budapest, pp. 611.

BOEV, P. (1972): Die Rassentypen der Balkanhalbinsel und der Ostägäischen Inselwelt und deren Bedeutung für die Herkunft ihrer Bevölkerung. — Sofia. pp. 269.

BÓNA, I. (1961): Geschichte der frühen und mittleren Bronzezeit in Ungarn und im mittleren Donauraum. — Ann. Univ. Bp. 3—22.

BÓNA, I. (1965): The peoples of southern origin of the Early Bronze Age in Hungary I—II. — Alba Regia. *4—5*, 1963—1964. 17—63.

BÓNA, I. (1965a) Über die Entstehung der Frühbronzezeit in der Theiss-Maros-Gegend. — Acta Ant. et Arch. 59—67.

BÓNA, I. (1966): Javaslat a magyarországi bronzkor új időrendi felosztására (Proposal for a new chronological division of the Bronze Age in Hungary). — Móra Ferenc Múzeum Évkönyve (Year-book of the Ferenc Móra Museum, Szeged). 1964—65. *2*, 25—30.

BÓNA, I. (1972): Magyarország története a nemzetiségi társadalomtól a törzsi társadalom koráig. Az újkőkortól a vaskorig (A history of Hungary from the clan society to the Age of tribal society. From the Neolithic Age to the Iron Age). — In manuscript. pp. 61.

BÓNA, I. (1975): Die mittlere Bronzezeit Ungarns und ihre südostlichen Beziehungen. — Arch. Hung. *40*, pp. 317.

BROTHWELL, D. R. (1959): The use of non-metrical characters of the skull in differentiating populations. — Bericht über die 6. Tagung der Deutschen Gesellschaft für Anthropologie in Kiel 30. 7. bis 2. 8. 1958. — Homo. Suppl. 103—109.

CAPPIERI, M. (1969): The mediterranean race in Asia before the Iron Age. Miami. pp. 28.

CAPPIERI, M. (1970): The Mesopotamians of the Chalcolithic and Bronze Age. Miami. pp. 33.

CAPPIERI, M. (1970a): The Anatolians of the Late Neolithic and Chalcolithic Age. — Türk Tarih Kurumu Belleten. *34*, 509—555.

EHGARTHNER, W. (1959): Die Schädel aus dem frühbronzezeitlichen Gräberfeld von Hainburg, Niederösterreich. — MAG. 88—89. 8—90.

FARKAS, GY. (1970): Supposition of genetic connections of Bronze-Age finds on the basis of blood-groupings. — Acta Biol. Szeged. *16*, 149—154.

FARKAS, GY. (1971): Anthropological finds of the Bronze-Age cemetery of Pitvaros. — Acta Ant. et Arch. *14*, 49—62.

FARKAS, GY. (1972): Antropológiai praktikum I. Paleoantropológiai metodikák (Anthropological practice I. Palaeoanthropological methodics). (Közreműködtek: LENGYEL IMRE és B. MARCSIK Antónia.) (IMRE LENGYEL and ANTONIA B. MARCSIK collaborating.) — JATE Természettudományi Kari jegyzet (Lecture notes, Faculty, of Natural Sciences, Attila József University). Szeged. pp. 233.

FARKAS, GY. (1973): Rézkori (bodrogkeresztúri) antropológiai leletek Nosza-Gyöngypart (Jugoszlávia) lelőhelyről (Copper Age anthropological finds of Bodrogkeresztur, from findspot Nosza-Gyöngypart, Jugoslavia). — Anthrop. Közlem. 17. 29—39.

FARKAS, GY. (1974): Neolitikus leletek Vésztő-Mágori halom lelőhelyről (Neolithic finds from findspot Vésztő-Mágori hill). — Anthrop. Közlem. 18. 55—64.

FARKAS, GY. (1976): Későneolithikus antropológiai leletek Vajška-Baba Sivačka lelőhelyről (Late Neolithic anthropological finds from findspot Vajška-Baba Sivačka). — Rad Vojvodanski Muzej. 21—22. 131—139.

FARKAS, GY. (1976a): A régészeti és antropológiai nem-meghatározás egybeesésének kérdése délalföldi őskori leleteknél (Problem of coincidence of the archaeological and anthropological sex-determination in case of prehistoric finds from the southern Great Hungarian Plain.) — Acta Biol. Szeged. 22. 137—143.

FARKAS, GY. (1976b): A Magyarhomoróg-kónyadombi rézkori temető antropológiai értékelése (Anthropological evaluation of the Copper-Age cemetery at Magyarhomoróg-Kónyadomb.) — Déri Múzeum Évkönyve (Year-book of the Déri Museum, Debrecen). 161—171.

FARKAS, GY.—LIPTÁK, P. (1968): Anthropologische Auswertung des frühbronzezeitlichen Gräberfeldes bei Battonya. — Acta Ant. et Arch. 12. 53—64.

FARKAS, GY.—LIPTÁK, P. (1971): A Tápé mellett feltárt későbronzkori temető antropológiai értékelése (Anthropological evaluation of the late Bronze-Age cemetery excavated in the vicinity of Tápé). — Anthrop. Közlem. *15*, 3—18.

FARKAS, GY.—LIPTÁK, P. (1971a): A Tápé környéki leletek értékelése (Evaluation of the finds from the neighbourhood of Tápé.) — In: *Antal Juhász* (Ed.): Tápé története és néprajza (A history and ethnography of Tápé). Tápé. 163—167.

FARKAS, GY.—LIPTÁK, P. (1971b): Physical anthropological examination of a cemetery in Mokrin from the Early Bronze Age In: Girić, Milorad: Mokrin, the Early Bronze Age necropolis. — Diss. et Monogr. Beograd. *11*, 239—271.

FARKAS, GY.—LIPTÁK, P. (1975): Anthropologische Auswertung des bronzezeitlichen Gräberfelds bei Tápé. In: *Ottó Trogmayer:* Das bronzezeitliche Gräberfeld bei Tápé. — Fontes Arch. Hung. Bp. 229—267.

FARKAS, GY.—MARCSIK, A. (1975): Atonical variations and palaeopathological observations on prehistoric series. — Acta Biol. Szeged. *21*, 147—163.

FINNEGAN, M. (1973): Discrete non-metric variation of the postcranial skeleton in man. — Paper presented at the 42nd Annual Meeting of the American Association of Physical Anthropologist, 12—14 April 1973, Dallas. pp. 9.

FINNEGAN, M. (1973a): Non-metric variance of the infra-cranial skeleton. — Paper presented at the 1973 Annual Meeting of the American Anthropological Assotiation 28 December 1973, New Orleans. pp. 19.

HARSÁNYI, L.—FÖLDES, V. (1968): Orvosszakértői személyazonosítás. (Identification by experts in forensic medicine). — A BM Tanulmányi és kiképzési csoportfőnökségének kiadása (Publication of the Study and Training Group, Ministry of the Interior). Budapest. 102—201.

JELINEK, J. (1965): Ein Beitrag zur Problematik der mittleren Bronzezeit in Mitteleuropa. — Anthrop. Anz. *29*, 108—116.

KALICZ, N. (1970): Götter aus Ton. Das Neolithikum und die Kupferzeit in Ungarn. Corvina, Budapest. pp. 75.

KONDUKTOROVA, T. SZ. (1973): Antropologija naszelenyija Ukrajni mezolita, neolita i epochi bronzi. Moscow. pp. 126.

B. KUTZIÁN, I. (1963): The Copper Age cemetery of Tiszapolgár—Basatanya. —Arch. Hung. *42*. pp. 595.

B. KUTZIÁN, I. (1972): The Early Copper Age Tiszapolgár culture in the Carpathian Basin. — Arch. Hung. *48*, 22—406.

LENGYEL, I. (1972): Laboratory analysis of the human bone finds from the Early Bronze Age cemetery of Mokrin. In: GIRIĆ, MILORAD: MOKRIN II. — Diss. et Monogr. Beograd. *12*, 75—90.

LENGYEL, I. (1974): A véletlen befolyásának értelmezése párhuzamos (régészeti, morfológiai és kémiai) vizsgálatok esetében (Interprepation of the influence of chance in case of parallel archaeological, morphological, and chemical investigations). — Anthrop. Közlem. *18*, 129—133.

LENGYEL, I. (1974a): Conclusions based on the paleoserological examination of the human skeletal remains from the Early Bronze Age Mokrin cemetery. — Glasnik Antrop. Drust. Jug. *11*, 61—67.

LENGYEL, I. (1975): Paleoserology. Blood typing with the fluorescent antibody method. Publ. House of the Hung. Acad. Budapest. pp. 240.

LENGYEL, I.—FARKAS, GY. (1972): A mokrini korabronzkori temető emberi csontmaradványain végzett laboratóriumi vizsgálatok eredményeinek kritikai elemzése a régészeti és az antropológiai adatok tükrében (Critical analysis of the results of laboratory investigations performed on the human skeletal remains from the early Bronze-Age Mokrin cemetery, as reflected in the archaeological and anthropological data). — Anthrop. Közlem. *16*, 51—71.

LENGYEL, I.—NEMESKÉRI, J. (1963): Application of biochemical methods to biological reconstruction. — Z. Morph. Anthrop. *54*, 1—56.

LIPTÁK, P. (1957): Adatok a Duna—Tisza közi bronzkor antropológiájához (Data on the anthropology of the Bronze Age in the Danube—Tisza Interstream Region). — Anthrop. Közlem. *1*, 3—16.

LIPTÁK, P. (1962): Homo sapiens — species collectiva. — Anthrop. Közlem. *6*, 17—27.

LIPTÁK, P. (1962a): Megjegyzések a magyarországi „bronzkori mongolidok" kérdéséhez (Comments on the problem of the „Bronze-Age Mongoloids" in Hungary). — Arch. Ért. *89*, 93.

LIPTÁK, P. (1963): Einige Fragen der Anthropotaxonomie. — Anthropos. *15*, 149—154.

LIPTÁK, P.—FARKAS, GY. (1967): A Békés—Povádzugi őskori és 10—12. századi temető csontvázanyagának embertani vizsgálata (Anthropological investigation of the skeletal remains of the cemetery at Békés—Povádzug from the prehistory and the 10th to 12th centuries.) — Anthrop. Közlem. *11*, 127—163.

MALÁN, M. (1929): Adatok a lengyeli őstelep neolith-kori lakóinak anthropológiájához (Data on the anthropology of the Neolith-Age inhabitans of the prehistoric settlement at Lengyel). Budapest. pp. 24.

B. MARCSIK, A. (1974): Data of the Copper Age anthropological find of Bárdos farmstead at Csongrád—Kettőshalom. — Móra Ferenc Múzeum Évkönyve (Yearbook of the Ferenc Móra Museum Szeged). 1971. *2*, 19—27.

MARTIN, R.—SALLER, K. (1957—1966): Lehrbuch der Anthropologie. Bd. I—II. Stuttgart.

MISZKIEWICZ, BR. (1972): Die Aunjetitzer Bevölkerung aus Tomica, Kr. Dziervoniow. — Homo. *23*, 145—154.

NATHAN, H.—HAAS, N. (1966): „Cribra orbitalia". A bone condition of the orbit of unknown nature. — Israel J. Med. Sciences. *2*, 171—191.

NECRASOV, O. (1965): Nouvelles données anthropologiques concernant la population de la culture néolithique Starčevo-Cris. — Ann. Roumain d'Anthr. *2*, 9—17.

NECRASOV, O.—CRISTESCU, M. (1965): Données anthropologiques sur les populations de l'age de la pierre en Roumanie. — Homo. *16*, 129—161.

NEMESKÉRI, J. (1944): A vaskúti neolithkori (Körös kultúra) csontváz embertani ismertetése (Anthropological exposition of the Neolithic-Age skeleton [Körös civilization] from Vaskút). —

In: Kutzián, I.: A Körös-kultúra (Körös civilization). Diss. Pann. Ser. II. No. *23*, 149—152.
NEMESKÉRI, J. (1951): Anthropologische Untersuchung der Skelettfunde von Alsónémedi. — Acta Arch. Hung. 55—72.
NEMESKÉRI, J. (1956): Anthropologische Übersicht des Volkes der Péceler Kultur.: BANNER, J.: Die Péceler Kultur. — Arch. Hung. *35*, 295—314.
NEMESKÉRI, J. (1961): Die wichtigste anthropologischen Fragen der Urgeschichte in Ungarn. — Anthrop. Közlem. *5*, 39—47.
NEMESKÉRI, J. (1970): A paleodemográfiai kutatások archeológiai és antropológiai feltételei (Archaeological and anthropological conditions of the palaeodemographical researches). — Demográfia *13*, 32—72.
NEMESKÉRI, J. (1970a): Die paläodemographischen Probleme des Mittel-Donau-Beckens in der Bronzezeit. — Homo *21*, 80—85.
NEMESKÉRI, J.—HARSÁNYI, L. (1958): A csontváz leletek életkorának meghatározási módszereiről és azok alkalmazhatóságáról (On the methods of determining the age at death of skeletal finds and their applicability). — Biol. Közlem. *1*, 115—164.
NEMESKÉRI, J.—HARSÁNYI, L.—ACSÁDI, GY. (1960): Methoden zur Diagnose des Lebensalters von Skelettfunden. — Anthrop. Anz. *24*, 70—95.
REGÖLI-MÉREY, GY. (1962): Palaeopathologia II. Az ősemberi és későbbi emberi maradványok rendszeres kórbonctana (Systematic pathological anatomy of prehistoric and later human remains). Medicina. Budapest. pp. 228.
SCHWIDETZKY, I. (1967): Ergebnisse der Penrose-Analyse: Ost-, Südost- und Ostmitteleuropa. In: Vergleichend-statistische Untersuchung zur Anthropologie des Neolithikums (Hrsg. v. I. Schwidetzky). — Homo *18*, 151—159.
SCHWIDETZKY, I. (1967a): Ergebnisse der Penrose-Analyse: Süd- und Südwesteuropa. In: Vergleichend-statistische Untersuchungen zur Anthropologie des Neolithikums. (Hrsg. v. I. Schwidetzky). — Homo *18*, 169—174.
SCHWIDETZKY, I. (1967b): Ergebnisse der Penrose- Analyse: Das Gesamtmaterial. In: Vergleichend-statistische Untersuchungen zur Anthropologie des Neolithikums (Hrsg. v. I. Schwidetzky). — Homo *18*, 174—198.
SCHWIDETZKY, I. (1967c): Verglaichend-statistische Untersuchungen zur Anthropologie des Neolithikums. — Homo *18*, 133—134.
SCHWIDETZKY, I. (1968): Die Abnahme der Unterschiede zwischen europäischen Bevölkerungen vom 5. vorschristlichen bis zum 2. nachchristlichen Jahrtausend. — Homo *19*, 61—64.
STROUHAL, E. (1964): Zur Antropologie der frühen Bronzezeit in der Südwest-Slowakei. — Mit. d. Sekt. Anthrop. *12*, 39—44.
TÓTH, T. (1968): Data to the Anthropology of the Bronze Age population in the Azov-Area. — Anthrop. Hung. *8*, 3—29.
TÓTH, T. (1970): On the Morphological Modification of Anthropological Series in the Lithic and Palaeometallic Ages I. — Ann. Hist.-nat. Mus. Nat. Hung. *62*, 381—392.
TÓTH, T. (1971): On the Morphological Modification of Anthropological Series in the Lithic and Paleometallic Ages II. — Ann. Hist.-nat. Mus. Nat. Hung. *63*, 401—408.
TÓTH, T. (1972): On the importance of the analysis of morphological modifications in paleoanthropology. In: Törő, I. — Szabady, E. — Nemeskéri, J. — Eiben, O. (Ed.): Advances in the biology of human populations. 463—472.
TÓTH, T. (1973): On the Morphological Modifications of Anthropological Series in the Central Danubian Basin. — Ann. Hist.-nat. Mus. Nat. Hung. *65*, 323—350.
TROGMAYER, O. (1963): Beiträge zur Spätbronzezeit des südlichen Teils der ungarischen Tiefebene. — Acta Arch. *15*, 85—122.
TROGMAYER, O. (1967): Bemerkungen zur Chronologie des Frühneolithikums auf dem Süd-Alföld. — Móra Ferenc Múzeum Évkönyve (Yearbook of the Ferenc Móra Museum Szeged). 1966—1967. 35—40.
TROGMAYER, O. (1968): A Dél-Alföld korai neolitikumának főbb kérdései. Kandidátusi értekezés tézisei. (Main problems of the early Neolithic Age of the southern Great Hungarian Plain. Theses for candidate's degree). Szeged. pp. 14.
TROGMAYER, O. (1975): Das bronzezeitliche Gräberfeld bei Tápé. — Fontes Arch. Hung. pp. 268.
VIRCHOW, R. (1890): Excursion nach Lengyel (Südungarn). — Verh. Berliner Ges. Anthrop. und Urgesch.
K. ZOFFMANN, Zs. (1971): An anthropological study of the neolithic cemetery at Villánykövesd (Lengyel Culture), Hungary. — A Janus Pannonius Muzeum évkönyve (Yearbook of the Pannonius Janus Museum Pécs) *13*, 1968. 25—38.

K. ZOFFMANN, Zs. (1974): Anthropological analysis of the cemetery at Zengővárkony and the neolithical Lengyel Culture in SW-Hungary. — A Janus Pannonius Múzeum Évkönyve (Yearbook of the Pannonius Janus Museum Pécs) *14—15*, 1969—1970. 53—73.

Address of the author:
Dr. GY. FARKAS
Department of Anthropology,
A. J. University, Szeged
Hungary